

What is claimed is:

1. An optical data storage system capable of recording/reading optical data on a disk media, comprising:

multiple probe columns arranged in a row,

wherein a region on which data can be recorded on the disk media, which is divided into small tracks and large tracks,

said probe column between the small tracks and the large tracks is moved by a dual driving control device in which high resolution movement and low resolution movement are integrated.

2. The optical data storage system as claimed in claim 1, wherein said probe column has a plurality of probes arranged in a row at one end within a probe column support.

3. The optical data storage system as claimed in claim 2, wherein said probe column is moved in a radial direction on the disk while the disk is rotated and records/reads in a spiral shape or a concentric circle shape.

4. The optical data storage system as claimed in claim 2, wherein said probe includes a plurality of optical probes and AFM probes, said AFM probes control a gap the disk media and record data using heat/electricity, and said optical probes record/read data using light.

5. The optical data storage system as claimed in claim 4, wherein said AFM probes are made to be longer than said optical probes by several dozens of nm and arranged in a row at one end of the probe column support to form a probe column.

6. The optical data storage system as claimed in claim 4, wherein said AFM probes are made with electrical or thermal conductive materials or have its surface coated with electrical or heat conductive materials so that the probes can conduct electricity or heat.

7. The optical data storage system as claimed in claim 4, wherein said AFM probes record data on the disk by making phase change or prominence and depression using electricity/heat, and said optical probes read data by reading the difference in the reflectivity or transmittance using light.

8. The optical data storage system as claimed in claim 4, wherein said AFM probes record/read data by controlling a gap based on measurement of an atomic force on the disk media.

9. An optical data storage method capable of recording/reading optical data on a disk media being characterized in that:

a plurality of probes for recording/reading data are arranged in a row,

wherein a column of the probes between small tracks on a media disk is moved by a transducer having a high resolution and a column of the probes between large tracks on the media disk are moved by a transducer having a low resolution.

10. An optical data storage system comprising:
a disk media having small tracks and large tracks,
a probe column driving arm;
multiple probes arranged in one dimension, with said probes being

attached to a free end of said probe column driving arm and moving in a radial direction of said disk media ; and

a dual driving control device to move said probes, with said dual driving control device having a high resolution transferring device capable of moving between said small tracks and a low resolution transferring device capable of moving between said large tracks.

11. The system of claim10, wherein said probes are arranged in a row at one end, with each of said probes have an optical aperture.

12. The system of claim10, wherein said high resolution transferring device is controlled by piezoelectric materials.

13. The system of claim10. Wherein said low resolution transferring device is controlled by a voice coil.

14. The system of claim10, wherein said probes comprises a plurality of AFM probes and optical probes which are manufactured in cantilevers by one pair, with said cantilevers having an aperture.